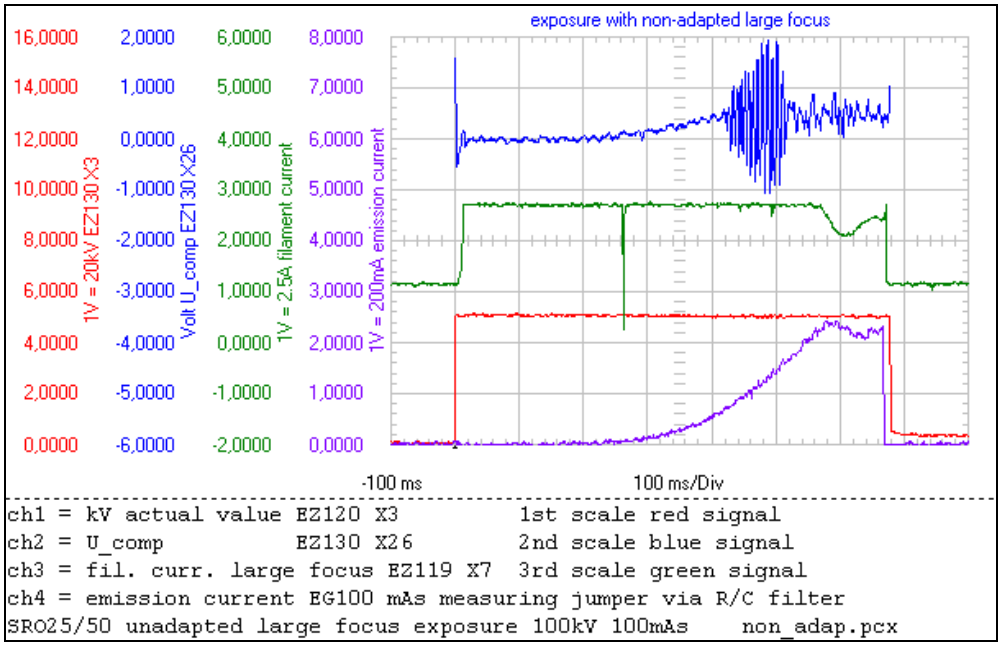
mA_control EZ119 functions
conditioning mode

Systems with a non-adapted tube can be used at least with kV-mAs technique. The control desk displays “Test” in this condition.

It does not behave like the normal mAs technique with a constant mA value and the shortest time possible, but will get the user the required mAs and dose.



As one can see in the screenshot the filament current (green) jumps from 3A in PREP to the large focus filament current limit value 6.54A about 10ms after kV actual (red) is at its nominal value and **kV_control EZ130** has sent the X_ACT_S/ signal.

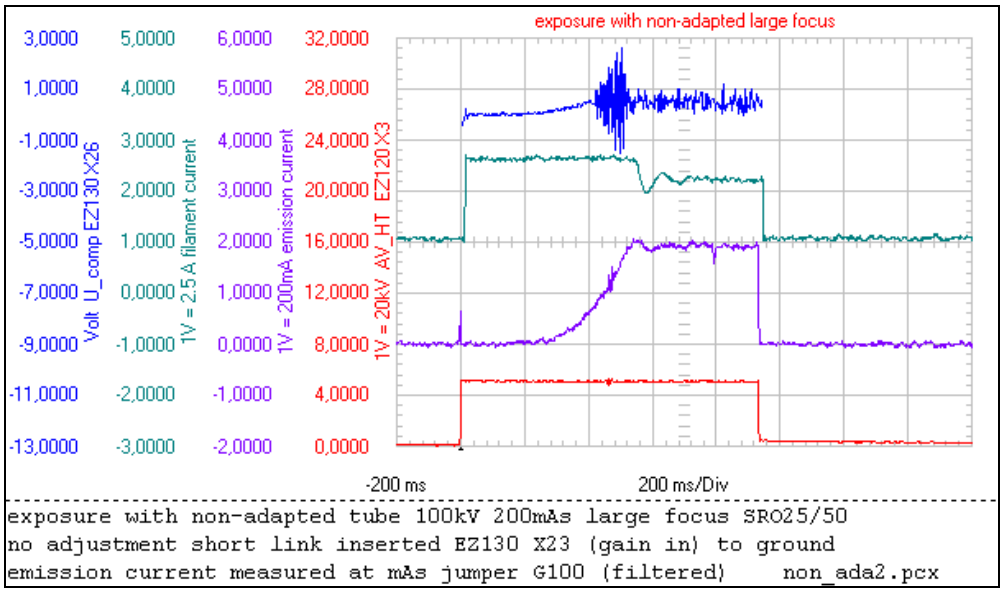
At 3A filament current the emission current is almost zero (< 100µA). Depending on the size and construction of the filament it takes quite a while before the temperature of the filament and with it the emission current (purple) rises.
If the emission current limit for the selected kV value is achieved the filament current will be reduced to keep the emission current at a constant value.
For all non-AEC techniques (kV-mAs, kV-mA-ms, kV-mAs-ms **) mA_control EZ119** always takes care about the termination of exposures once the set mAs value is achieved.

This technique can and should be used to condition the tube before it will be adapted during a non-preinstalled installation or after tube exchange.

The 4th signal (blue) of the screenshot displays the U_comp value (measured at the **kV_control EZ130** at release 3 generators only) to indicate that there is a lot of control to keep the kV at a constant level during a changing load.
Once the mA value is more or less stable U_comp is less busy.

The following screenshot shows the same, but instead of 100mAs for the first exposure 200mAs were set in this case. It results in a longer exposure time. Compared with the total exposure time it is only 250ms longer compared to the first exposure which already took 675ms.
The reaction time to start with the emission of mA is the same, about 250ms.

The emission current limit was set to 500mA in the first 100mAs exposure. For 200mAs it is limited to 400mA, otherwise the focus track will be overloaded.



Warm-up or conditioning procedures must always be carried out with the large focus.
Some small filaments are very short. It takes so long to get it heated up to achieve an emission current that the generator errors out before any emission current appears.